THE ETCHING OF COPPER AND BRASS

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LESSON TWENTY-FIVE

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There are so many possibilities attached to the decorating of copper and brass that I shall give instructions on the handling of these rich metals and their coloring.

The treatment of copper and brass is identically the same. I will use copper as the chosen subject in the course of this article. Copper is rich in itself, but a design applied here and there will relieve its plainness and that design may be enhanced by coloring the background in a fashion that I will explain elsewhere in this chapter.

It is my intention in this lesson to point out a few of the many artistic possibilities of copper and brass etching. An unlimited field makes this craft one of the most fascinating known. It may be used for arts and crafts jewelry, and the decorating of an endless list of useful objects. It affords a genuine opportunity for the display of originality and craftsmanship, as well.

I want you to use the knowledge and practice you have acquired in previous lessons to not only be on the lookout for novel ideas and subjects to decorate, but also to originate designs.

This subject is fascinating and inexpensive, and the space in which to work or carry your stock may be very small indeed. Remember that the fascination of any art work lies in your ability to originate and put in practice your own ideas.

The surface to be decorated must be prepared in the following manner: remove all grease and spots with fine kitchen cleanser or pumice stone, then sandpaper the exact surface to which you are going to apply the design.

This is important as the tracing of the design will not take well on polished copper and the surface to decorate must have a "tooth" to work on. By "tooth" is meant the small scratches on the metal, produced by rubbing with fine sandpaper, pumice stone, or any slightly gritty agent. I cannot over-emphasize the importance of thus preparing the piece of copper or brass you are to etch. As some metal articles are coated with lacquer or varnish when bought, it is especially necessary that you should not overlook thus preparing the surface. If you should overlook it, disastrous effects will result.

The tracing of a design on copper will be done in the same manner as on wood, or by free hand. A very soft lead pencil will be used for free hand drawing. This has been explained in a previous chapter.

When a suitable design has been selected, the subsequent operations are relatively easy. The tracing of the design being the most important of these operations, care should be taken to trace it in very distinct lines. Hence, the importance of the "tooth" on the surface of the copper and a sharp line to follow.

The design is drawn accurately on paper, and then transferred with carbon paper to the metal. Go over it with a hard pencil. This will leave a slight indication on the metal. Then proceed to cover the design with blocking-out varnish (or asphaltum), which must be of a consistency thin enough to drop easily from a brush. This varnish protects the metal from the acid, which is to be applied later. When painting the design endeavor to keep the edges smooth, being careful to paint with varnish of the right consistency. It may be thinned with turpentine till the brush gives an easy flowing stroke. Not only must the design be covered, but also the bottom, back and edges of the object, in order that the acid may eat only the exposed parts or the background of the design. The varnish should be applied in a fairly thick coat.

The etching point found in your outfit will enable you to etch fine lines to indicate the veins of leaves or the shape of the petals of flowers. These lines must be used very sparingly, however, not to destroy the bold effects produced by a treatment of the design in solid masses. They should be put in after the blocking-out varnish has reached a sticky consistency.

You will have to procure a little nitric acid. Because of postal regulations, we do not send it out in the kits, but you can get an ounce, which is a great plenty, at any drug store for 10c or 15c. It is not necessary to get chemically pure

acid, although, of course, that is stronger than the acid prepared for commercial uses, and, therefore, a little will go a long way.

After the blocking-out varnish has dried, (that will take from twelve to twenty-four hours), take a glass developing tray, or a kitchen crock, place the object to etch face up in the bottom of the tray, and pour the acid into it, so that it is more than covered as the acid evaporates. If the solution is too strong, brown fumes will appear and bubbles will rise to the surface. Some water must be added if this occurs. Add just a little at first. Probably a tablespoonful or two will suffice. If the acid is unusually strong it may be necessary to add an equal amount of water. Place the crock in some safe place, a porch, or a shed. The fumes are rather disagreeable, so care must be taken in choosing a place; also, do not leave it where children could reach it.

Keep looking at the metal to see how the acid is working. It should be eaten to a little less than one thirty-second of an inch. Sometimes the design is entirely eaten through. All depends upon the wish of the craft-worker as to the quality of the design. If you diluted your acid with an equal amount of water you can leave the copper in it over night. If, on the other hand, you added only a little water a few hours immersion will be sufficient. Some craftsmen, to economize on acid, apply it by means of a medicine dropper or any old brush only to those parts they wish corroded, or, in other words, to the background.

Remove the object with pinchers and soak it in a bath of kerosene or turpentine. The varnish may be removed by rubbing the surface with a cloth wrung out of turpentine.

Cleanse the metal with powdered pumice, and paint it with a light coat of turpentine, which will give it a slight coloring. Then heat slowly in an oven or over a gas plate, when it will turn to colors ranging from deep cadmium to purple. The intensity of the oven's heat should be increased gradually till it is exceedingly hot. At first it should be but luke warm. Real individuality can be expressed in this method of ornamentation of brass or copper. The work of no two craftsmen is exactly alike, some aiming to get a very delicate design, while others prefer the acid to eat nearly through the metal. In making a design for a tray, it may either be continuous, or be run around as a border, or, if preferred, a design may be repeated four times at regular intervals. But, of course, the design must all be planned on paper first, and then traced on the metal.

There are many suitable things obtainable at shops that can be treated in this way, especially paper knives and desk sets, which make interesting presents, even if the ornamenting is the only part that is original. Many people who enjoy experimenting in chemicals, and who have no talent or patience for the actual working of metals will find in this craft a well suited occupation.

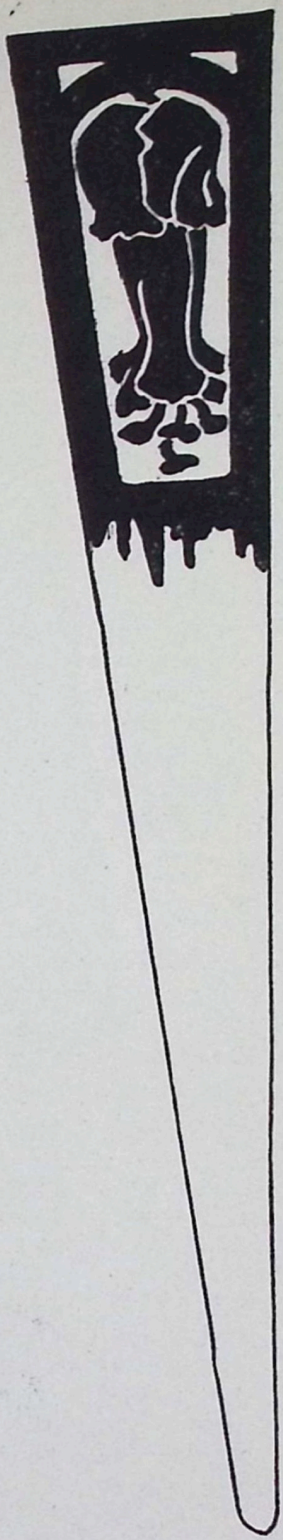
Among the articles of brass and copper that may be successfully decorated in that manner, and some of which are listed in our Materials Catalog, I might mention:

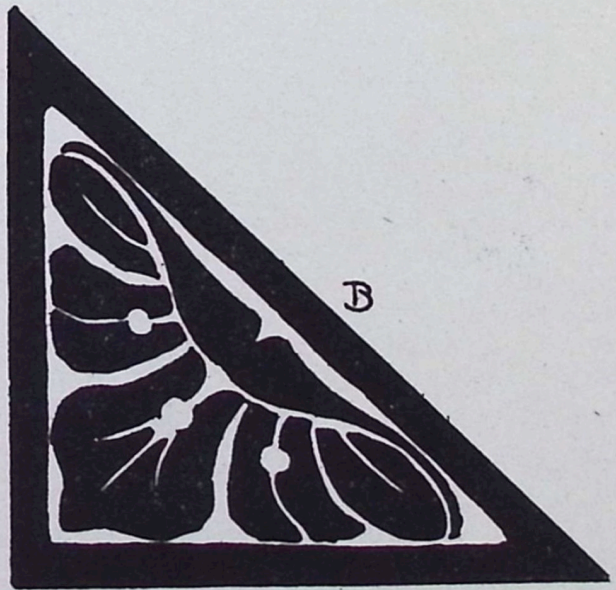
Desk Sets	Rocker Blotters
Letter Openers	Stationery Holders
Ash Trays	Smokers' Sets, etc.
Large Trays	Calendars
Name Plates	Document Clips

You will find in your kit, a small sheet of copper on which I will ask you to trace and etch the designs shown at A and B on Plate 1, using one side of the sheet for each one. When design A is completed you will cover its entire surface with blocking-out varnish before proceeding with design B that the former may not be defaced through the etching process. You will, please, mail this sheet for criticism. You need not work out the other designs.

Gabriel André Petit

COPPER ETCHING





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Lesson 25. Pl. 1

"Many members begin decorating giftwares and objets d'art after finishing only a few lessons. Others prefer to finish more lessons and more subjects in order to decorate giftwares in a greater variety and in a more salable manner. In any case you should finish at least six or more lessons before requesting the lessons which have to do with merchandising and how to make money. These lessons will be sent to you automatically when you have finished the tenth lesson on the subject of Enameling Furniture. The lessons on merchandising or how to make money are numbered as follows: 3, 6, 8, 11, 14, 20, 23, 26, and 28."

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